WHAT IS CLAIMED IS:

1. A relay control circuit for use in a Switch device having a number of ports, for the purpose of performing load-balancing in the Switch device based on a port group configuration; the Switch device including an address-extraction circuit for extracting an address information from a received frame and a memory unit for storing a routing table;

the relay control circuit comprising:

a transformation circuit for transforming the address information into an index address;

a storage unit for storing the port group configuration which is adjustable; and

a comparison circuit for forwarding the received frame according to the index address and the port group configuration;

wherein the port group configuration contains arbitrary number of ports, and is adjusted according to a frame throughput of the ports.

2. The circuit of claim 1, wherein the port group configuration includes a plurality of certain ports assigned to a port group and a load-balancing relationship between the index address and the certain ports,

adjusting the load-balancing relationship between the index address and the certain ports belonging to the port group if the frame throughput of any of the certain ports is over-loading.

3. The circuit of claim 1, wherein the transformation circuit is a cyclic redundancy check (CRC) circuit and the index address is a CRC modulo.

4. The circuit of claim3, wherein the CRC modulo is 8 bit in length.

5. The circuit of claim 1, wherein the storage unit is EEPROM.

6. The circuit of claim1, wherein the port group configuration are set through a DIP switch.

7. A relay control method for forwarding a frame with an address information in a Switch device, the Switch device having a number of ports and a routing table based on a port group configuration;

the method comprising the steps of:

transforming the address information into an index address;

forwarding the frame according to the index address, the routing table, and the port group configuration; and

adjusting the port group configuration if an over-loading is occurred in the ports.

8. The method of claim 7, wherein the step of transforming the address information into the index address is performed by a CRC operation and the index address is a CRC modulo.

9. The method of claim 8, wherein the CRC modulo is 8 bit in length.

10. The method of claim 7, wherein the address information includes the source and destination of the frame.

11. The method of claim 7, wherein the port group configuration includes a plurality of certain ports assigned to a port group and a load-balancing relationship between the index address and the certain ports,

adjusting the load-balancing relationship between the index address and the certain ports belonging to the port group if the over-loading is occurred in the ports.

12. A Switch device for forwarding a frame comprising:

an address-extraction circuit for extracting an address information from the frame;

a memory unit for storing a routing table; and

a relay control circuit, the relay control circuit transforming the address information into an index address, storing a port group configuration, and forwarding the frame according to the index address, the routing table, and the port group configuration;

wherein the port group configuration is adjusted based on the throughput in the Switch device.

13 The Switch device of claim 12 wherein the relay control circuit includes a CRC circuit for transforming the address information into the index address, and the index address is a CRC modulo.

14 The Switch device of claim 13 wherein the CRC modulo is 8 bit in length.

15 The Switch device of claim 12 wherein the relay control circuit further includes:

a storage unit for storing the port group configuration.

16 The Switch device of claim 15 wherein the storage unit is EEPROM.